Current Conditions Addendum to the QAPP: Fish and Crab Tissue Collection for Chemistry Analysis, Rev 0, Addendum 7, Aug. 1, 2019
NJDEP Team comments, August 20, 2019

Review of the subject document has been completed by the DEP team. Review comments have been contributed by the NJDEP Division of Science and Research, Jennifer Daley, LimnoTech, and Anne Hayton, NJDEP-SRWMP. The following comments are provided for consideration by USEPA.

1. Introduction, DQO 1, page 1: For RM 15 to the Dundee Dam, text states:

"If available fish and crab samples are insufficient to achieve the targeted number of composite samples (i.e., 25 composite samples collected over 2 years as required by USEPA), DQO 1 will be considered unachievable and will not be exercised."

Response: Statement is considered overly restrictive/severe and requires clarification. If less than the target number of tissue samples are obtained (via conditions described in footnote 1), an appropriate assessment of contaminant levels in caught species using available tissue data for that river reach should be performed. Although this section of the river represents a different kind of habitat and may yield lower numbers of "target" species, it remains a region of the river where fish (and to lesser extent, crab) may reside, and therefore warrants characterization to the extent feasible through this program. To address the possibility that less than the target number of samples are collected in this reach, a contingency plan for conducting the biota tissue assessment using specimens/ tissue samples collected, is needed and should be described in this plan.

EPA Response: This comment is similar to one of EPA's comments that will be included in the response memo– "DQO 1 will be considered unachievable and will not be exercised" and replace with "DQO 3 will be used to determine the future analysis and collection plan."

2. Introduction, DQOs 2, page 2: Text states: "Evaluate bioaccumulation model performance using the current condition fish and crab tissue data and refine model as needed post-Record of Decision (ROD).[3] "

Response: Text should add statements describing the specific data (e.g., whole-body reconstituted, fillet, lipid, age-structure data) proposed for input in, and/or calibration of, the bioaccumulation model. This is expected to include certain numbers of samples and relational locations of biota tissue, sediment and surface water and should be described in this QAPP. If other data (such as indicated in footnote 3) are used, this should be included/described. The Department remains concerned that co-located sediment – biota data are not being collected for the purposes of improved understanding of these relationships and bioaccumulation model refinement, and requests justification for not collecting this information through this QAPP, and clarification on when such data will be obtained. Co-located biota tissue and sediment data should be collected concurrently to be as accurate as possible in evaluating model performance.

EPA Response: EPA disagrees with this comment. The statement is broad and says "…refine as needed…" Forcing them to define everything at this point is not necessary or feasible. DQO 2 was agreed upon during the collaborative meetings between EPA, NJDEP and CPG.

3. Introduction, bottom of page 2: Tissue sample types and combinations are described. The general anticipated criteria to be used for deciding the future sample composites should be added, such as same species (already mentioned), location within a reach, and size. The approximate minimum sizes should be referenced to the appropriate QAPP worksheet and/or Attachments.

EPA Response: EPA disagrees with this comment. Fish sizes are listed in Worksheet 11, along with compositing information. Future sample determination will be dealt with when all of the teams have the data from this biota sampling event and will decide together what will be required in the future.

4. Introduction, top of page 3: This section should reference where fish aging methods are described further.

EPA Response: EPA agrees with this comment.

5. QAPP Worksheet (WS) No. 10, Problem Formulation: Regarding DQO 1 for RM 15 – Dundee Dam, please see comment 1 above.

EPA Response: EPA agrees with this comment.

6. QAPP WS No. 10: For DQO 2, please refer to comment 2 above. Items 3 & 4 of the "environmental questions being asked" should be expanded to identify the type(s) of data needed for the bioaccumulation model and how these data will be specifically used either in, or to improve, development of the model. Please clarify, "model performance" under question 3, is this dataset being used for additional calibration to obtain optimal agreement between measured and modeled data? Or are there other purposes with respect to the model? (e.g., model performance versus model validation, the latter of which requires an independent dataset)

EPA Response: EPA disagrees with this comment. See EPA's response to DEP's comment 1 about DQO 2 above. Additionally, this is a biota collection QAPP, EPA does not agree that this is the place to define model performance.

7. QAPP WS No. 11, Who will use these data?: In addition to what is stated, the NJDEP Division of Science and Research will evaluate reported contaminant levels relative to, and in support of, evaluation of current State fish consumption advisories.

EPA Response: EPA agrees with this comment.

8. QAPP WS No. 11: Clarification is needed regarding the species to be used for assessing food web base, i.e., small-range forage fish, to evaluate sediment uptake, used for direct biota-sediment concentration evaluations (BSAFs). The model incorporates several additional trophic levels from different feeding guilds but those don't appear to be part of this sampling QAPP. This may be a missed opportunity to collect species, for example, *Fundulus sp*., that fill that niche.

EPA Response: EPA disagrees with this comment. The species list has already been determined. The forage fish will be primarily sunfish. Additionally, this is a biota collection QAPP, EPA does not agree that this is the place to define model.

If there are additional plans to sample additional organisms, they should be referenced here (or in DQO 2) to show that this sampling effort isn't a standalone effort to evaluate model performance.

EPA Response: There are no other plans.

9. QAPP WS No. 11, Collection Methods: For river segments where there is a concern that numbers of target species may be difficult to obtain, consider pro-actively deploying per river mile, more than 1 trap, trotline, gill net, etc.

EPA Response: EPA disagrees with this comment. CPG is not able to out equipment and leave it there. They have a set crew, with a set river reach to work. Because of the miles involved (and tidal cycles), they can't feasibly work at RM 9 and RM 15 on the same days.

10. QAPP WS No. 11, Data reporting: Although assumed to be done, this worksheet should specify recording the GPS information for each sample collection location. Also, this worksheet should mention preparation of the compositing plan memorandum (described in Attachment O) summarizing the fish collection outcome (numbers of individuals per species, and their sizes, weight, gender, and abundance per collection location and river mile, etc.) to be generated as basis for determining the sample composite plan prior to implementing the analytical program. This report should include a map presenting tissue collection locations and a summary of all fish collected during each effort (2019, 2020). Following this and once chemical analysis and data validation are concluded, an updated report summarizing the tissue results should be submitted (as already described in this worksheet page 34).

EPA response: EPA agrees with this comment except "This report should include a map presenting tissue collection locations and a summary of all fish collected during each effort (2019, 2020). " because it is not necessary for a QAPP.

In footnote 9, page 31, how is additional mass being obtained to accommodate USEPA split sample objectives? Page 33, is there a plan for determining if/when it is appropriate to move from RM16 to Dundee Dam to filling in gaps for RM 8.3 to RM16?

EPA Response: EPA disagrees with this comment. The CPG will collect more samples, and the lab will split the homogenate. CPG explained a plan for determining if/when it is appropriate to move from RM16 to Dundee Dam to filling in gaps for RM 8.3 to RM16 on page 33.

11. WS No. 11 and Attachment O: Accommodations for supplying sufficient tissue samples to USEPA for split sampling purposes is needed.

EPA response: EPA agrees with this comment